

### REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1-11 are pending in this application. Claims 1, 2, 6, 9, and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 5,894,156 to Terashima et al. (herein "Terashima") in view of U.S. patent 6,798,037 to Leonardi, U.S. patent 6,608,350 to Kinzer et al. (herein "Kinzer"), and U.S. patent 5,883,413 to Ludikhuizen. Claims 3-5, 7, 8, and 11 were objected to as dependent upon a rejected base claim, but were noted as allowable if rewritten in independent form to include all of the limitations of their base claim and any intervening claims.

Initially, applicant gratefully acknowledges that indication of the allowable subject matter. With respect to the indication of allowable subject matter, each of claims 3, 5, and 7 is rewritten in independent form, to include the limitations of their base claim 1 (although without the newly added features to claim 1) and their intervening claims. Thereby, claims 3, 5, 7, and claims 4, 8, and 11 dependent therefrom, are believed to be allowable.

Addressing now the rejection of claims 1, 2, 6, 9, and 10 under 35 U.S.C. § 103(a) as unpatentable over Terashima in view of Leonardi, Kinzer, and Ludikhuizen, that rejection is traversed by the present response.

Independent claim 1 is amended by the present response to clarify a feature therein. Specifically, independent claim 1 now clarifies the first MOS transistor "formed between, and without including a portion of, said first trench isolation region and said first impurity region". That claim feature is believed to clearly distinguish over the applied art.

According to the above-noted feature reflected in the claims, and with reference to Figure 3 in the present specification as a non-limiting example, a semiconductor device as claimed includes a first MOS transistor 103 formed between, and without including a portion of, a first trench isolation structure 8a and a first impurity region 3. That is, the elements of

the MOS transistor 103 are not formed in any part of the first trench isolation structure 8a or the impurity region 3, but are formed between the first trench isolation structure 8a and the impurity region 3. That claim structure is believed to clearly distinguish over the basis for the outstanding rejection.

The outstanding rejection relies on Terashima to disclose each of the first trench isolation structure, the first impurity region, and the first MOS transistor; the first MOS transistor including a second impurity region, a third impurity region, and a first source region. According to the outstanding rejection Terashima in Figure 12 discloses a first impurity region (leftmost 3), a first isolation structure (rightmost 3), a first MOS transistor including a second impurity region (middle 5), a third impurity region (leftmost 6), and a first source region (leftmost 5).

However, in that grounds for the rejection the noted third impurity region (leftmost 6) and first source region (leftmost 5) in Terashima are part of the noted first impurity region (leftmost 3). That is, all the elements of the noted first MOS transistor in Terashima are not formed between, and without including a portion of, a first trench isolation structure and a first impurity region.

In contrast to Terashima, and again with reference to Figure 3 in the present specification as a non-limiting example, elements of the transistor 103 do not include portions of the first impurity region 3 or the first trench isolation structure 8a.

In such ways the outstanding rejection is traversed as the relied upon teachings in Terashima do not correspond to the claims as currently written.

Moreover, no teachings in any of the secondary cited references to Leonardi, Kinzer, or Ludikhuijze cure the above-noted deficiencies in Terashima. Thereby, independent claim 1, and the claims dependent therefrom, distinguish over the applied art.

Applicants also submit dependent claim 10 even further distinguishes over the applied art as not fully recognized in the Office Action.

With respect to claim 10, the Office Action refers to a polysilicon 11 in Figure 12 of Terashima as corresponding to the claimed "field plate". Applicants traverse that position. Terashima specifically only notes "[t]he polysilicon 11 has the same potential as that of the p-diffusion region 3".<sup>1</sup> Thereby, it is not at all clear that the polysilicon 11 is electrically connected to the p-diffusion region 3 because two regions could be at the same potential without being electrically connected to each other. Furthermore, even if the polysilicon 11 was electrically connected to the rightmost p-diffusion region 3 in Terashima, the polysilicon 11 is not necessarily electrically connected to the n-epitaxial layer 2 in case the isolation structure 10 of Leonardi is provided instead of the rightmost p-diffusion region 3. Thereby, one of ordinary skill in the art would not even have been motivated to combine or cite Leonardi for the feature of claim 10.

In view of these foregoing comments applicants respectfully submit dependent claim 10 even further distinguishes over the applied art.

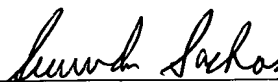
---

<sup>1</sup> Terashima at column 1, lines 29-30.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



\_\_\_\_\_  
Gregory J. Maier  
Registration No. 25,599  
Surinder Sachar  
Registration No. 34,423  
Attorneys of Record

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 03/06)  
GJM/SNS:sih

I:\ATTY\SNS\24's\247968\247968US-AM1.DOC